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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,371	12/10/2001	Mark Oscar Worthington	12353	1679

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EXAMINER	
SMITH, ZANDRA V	

ART UNIT	PAPER NUMBER
2877	

DATE MAILED: 08/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/006,371	WORTHINGTON, MARK OSCAR	
	Examiner	Art Unit	
	Zandra V. Smith	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-16,19-22,24,26-29,32-34,37 and 38* is/are rejected.

7)☒ Claim(s) *6,17,18,23,25,30,31,35 and 36* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Gordon (5,892,577).***

As to **claims 1 and 38,** Gordon discloses an apparatus and method for carrying out analysis of a sample, comprising:

providing an optical disc (1) to an optical disc reader (7);

directing at least one beam of radiation, from laser (8), to the optical disc and scanning the beam over the disc (col. 5, lines 25-50);

acquiring radiation returned from or transmitted through the disc using a detector (11);

generating at least one analyte signal from the acquired radiation that is indicative of the presence of the analyte; and

generating operation signals from the acquired information to enable the optical disc reader to read the disc (col. 6, lines 11-35 and col. 9, lines 25-32).

As to **claim 2,** Gordon discloses everything claimed, as applied above, in addition the optical disc reader is a CD reader (col. 6, line 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-5, 7-16, 19-22, 24, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Gordon (5,892,577)*** in view of ***Idemitsu Petrochemical (EP 417,305 A1).***

As to **claim 3,** Gordon discloses everything claimed, as applied above, with the exception encoded speed information and generating signals to control the speed of the disc, however to do so is well known as taught by Idemitsu Petrochemical. Idemitsu Petrochemical discloses an analyzer of liquid samples that includes encoded speed information (col. 12, lines 5-16) it would have been obvious to one having ordinary skill in the art at the time of invention to include encoded speed information since the rotation of an optical disc depends on its type and encoding the speed information will ensure that the disc is rotated at the proper speed, thereby ensuring the encoded information if properly read by the reader.

As to **claims 4-5, 7,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition the analyte signal and operational signal may be obtained simultaneously (col. 7, lines 11-35) or sequentially (see fig. 6) where one detector is provided to read both information.

As to **claim 7,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition the disc includes a first layer having a surface impressed with optically

readable structures coated on a first reflected layer and the method includes focusing the beam on the first reflective layer (col. 5, lines 1-10 and col. 9, lines 55-68).

As to **claims 8 and 16,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition the beam is focused on an analyte (col. 2, lines 43-45 and col. 6, line 65-col. 7, line 8).

As to **claims 9-11,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition a second, laser proximate laser is provided and the analyte may be located between the first and second layers, wherein the first layer includes areas without optically trackable information, and a portion of the beam is directed to the analyte through the first layer (col. 5, lines 1-10, lines 50-40 and col. 9, lines 55-68).

As to **claims 12-15,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition the first reflective layer is semi-reflective, a second reflective layer is provided laser-distal to the first and the surface of the first layer includes areas without optically readable structures that have encoded information and the radiation is directed to the analyte through those areas (col. 5, lines 1-25, lines 40-55 and col. 6, lines 33-46).

As to **claim 19-21,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, with the exception of the location of the analyte with respect to the reflective layer, however it would have been obvious to one having ordinary skill in the art at the time of invention to located the analyte at any distance with respect to the reflective surface to ensure that the analyte is read and the encoded information is also read, without interfering with each other.

As to **claim 22,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, with the exception of specifically stating that the analyte is located at the focal depth of the beam, however since locating the analyte at the focal depth of the beam would ensure that the analyte is read, it would have been obvious to one having ordinary skill in the art at the time of invention to locate the analyte at the focal depth of the beam.

As to **claim 24,** Gordon and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition a portion of the beam may be directed through the disc (col. 6, lines 33-40).

As to **claim 37**, Gordon discloses an apparatus and method for carrying out analysis of a sample, comprising:

providing an optical disc (1) to an optical disc reader (7);

directing at least one beam of radiation, from laser (8), to the optical disc and scanning the beam over the disc (col. 5, lines 25-50);

acquiring radiation returned from or transmitted through the disc using a detector (11);

generating at least one analyte signal from the acquired radiation that is indicative of the presence of the analyte; and

generating operation signals from the acquired information to enable the optical disc reader to read the disc (col. 6, lines 11-35 and col. 9, lines 25-32).

Gordon differs from the claimed invention in that encoded speed information and generating signals to control the speed of the disc is not provided, however to do so is well known as taught by Idemitsu Petrochemical. Idemitsu Petrochemical discloses an analyzer of liquid samples that includes encoded speed information (col. 12, lines 5-16) it would have been

obvious to one having ordinary skill in the art at the time of invention to include encoded speed information since the rotation of an optical disc depends on its type and encoding the speed information will ensure that the disc is rotated at the proper speed, thereby ensuring the encoded information if properly read by the reader.

Claims 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Gordon (5,892,577)*** in view of ***Daiber et al. (US 6,322,933 B1).***

As to **claim 26,** Gordon discloses an apparatus and method for carrying out analysis of a sample, comprising:

providing an optical disc (1) to an optical disc reader (7);

directing at least one beam of radiation, from laser (8), to the optical disc and scanning the beam over the disc (col. 5, lines 25-50);

acquiring radiation returned from or transmitted through the disc using a detector (11);

generating at least one analyte signal from the acquired radiation that is indicative of the presence of the analyte; and

generating operation signals from the acquired information to enable the optical disc reader to read the disc (col. 6, lines 11-35 and col. 9, lines 25-32).

Gordon differs from the claimed invention in that holographic encoded information is not provided, however to do so is well known as taught by Daiber. Daiber discloses a system for volumetric track definition for data storage medium that includes an optical disc with holographic encoded information (col. 2, lines 31-35). It would have been obvious to one having ordinary skill in the art at the time of invention to include holographic encoded information

because holographic data storage provided higher storage densities and data can be superimposed within the same medium volume.

As to **claim 27,** Gordon and Daiber disclose everything claimed, as applied above, in addition the optical disc reader is a CD reader (col. 6, line 11).

Claims 28-29 and 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over ***Gordon (5,892,577)*** and ***Daiber et al. (US 6,322,933 B1)*** and further in view of ***Idemitsu Petrochemical (EP 417,305).***

As to **claim 28,** Gordon and Daiber disclose everything claimed, as applied above, with the exception encoded speed information and generating signals to control the speed of the disc, however to do so is well known as taught by Idemitsu Petrochemical. Idemitsu Petrochemical discloses an analyzer of liquid samples that includes encoded speed information (col. 12, lines 5-16) it would have been obvious to one having ordinary skill in the art at the time of invention to include encoded speed information since the rotation of an optical disc depends on its type and encoding the speed information will ensure that the disc is rotated at the proper speed, thereby ensuring the encoded information if properly read by the reader.

As to **claim 29,** Gordon, Daiber and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition Daiber provides focusing the beam on the hologram (col. 10, lines 6-10). It would have been obvious to one having ordinary skill in the art at the time of invention to focus the beam on the hologram to allow for reading the encoded information.

As to **claim 32,** Gordon, Daiber, and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition the beam is focused on an analyte (Gordon, col. 2, lines 43-45 and col. 6, line 65-col. 7, line 8).

As to **claims 33-34,** Gordon, Daiber and Idemitsu Petrochemical disclose everything claimed, as applied above, in addition the analyte signal and operational signal may be obtained simultaneously (Gordon, col. 7, lines 11-35) or sequentially (see fig. 6) where one detector is provided to read both information.

Allowable Subject Matter

Claims 6, 17-18, 23, 25, 30-31, 35-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, taken alone or in combination, fails to disclose or render obvious, a system for detecting at least one analyte held by an optical disc that includes a quad sum analyte signal, encoded focus control information, moving the focus of the beam from the first reflective layer to the second reflective layer, the analyte signal being a focusing servo signal, part of the analyte in the image plane of the hologram, in combination with the rest of the limitations of claim.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 38 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/005313. Although the conflicting claims are not identical, they are not patentably distinct from each other because both provide optically readable structures which have encoded tracking information and speed information and an analyte section..

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wang et al. (5,922,617) disclose a system for rapid screening assays that includes the use of a quad cell detector.

Fax/Telephone Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zandra V. Smith whose telephone number is (571) 272-2429. The examiner can normally be reached on 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Zandra V. Smith
Primary Examiner
Art Unit 2877

August 9, 2004